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March 12, 2015

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-A325
Washington, D.C. 20554

Electronically Filed

Re: CC Docket No. 95-116; WC Docket No. 07-149; WC Docket No. 09-109

Dear Ms. Dortch:

I write on behalf of Neustar, Inc., to submit the attached report, "Neutrality in number portability administration," prepared by Harold Furchtgott-Roth, President of Furchtgott-Roth Economic Enterprises. Mr. Furchtgott-Roth's report updates an earlier report filed as an attachment to Neustar's comments in this proceeding on September 13, 2012.[1] Mr. Furchtgott-Roth concludes that the Commission should assign the LNPA contract to a vendor that is, in both practice and appearance, neutral. When applying the neutrality standards to this proceeding, Mr. Furchtgott-Roth further concludes that neither Ericsson nor Telcordia appear to be neutral, and that Ericsson's proposal for a "voting trust" would not lead to the impartiality and neutrality of Telcordia.

Pursuant to Section 1.1206 of the Commission's rules, 47 C.F.R. § 1.1206, a copy of this letter is being filed via ECFS. If you have any questions, please do not hesitate to contact me.

Sincerely,

Aaron M. Panner

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1 *See* Comments of Neustar, Inc., CC Docket No. 95-116, WC Docket Nos. 07-149 and 09-109, Attachment (filed Sept. 13, 2012) ("The Importance of Neutrality in Number Portability Administration").

Enclosure

cc: Daniel Alvarez
Nicholas Degani
Rebekah Goodheart
Travis Litman
Amy Bender
Julie Veach
Jonathan Sallet
Kris Monteith
Lisa Gelb
Michele Ellison
Randy Clarke
Ann Stevens
Sanford Williams
Neil Dellar
Terry Cavanaugh

Federal Communications Commission

Neutrality in number portability administration

FCC Dockets 95-116; 07-149; and 09-109.

Harold Furchtgott-Roth[1]

March 2015

[1] President, Furchtgott-Roth Economic Enterprises. I gratefully acknowledge a generous grant from Neustar to underwrite part of this research project. The views expressed, and any errors, in this report are entirely my own.

I. INTRODUCTION AND BACKGROUND

A. Background

I have reviewed much of the recent record in the FCC dockets related to the administration of local number portability particularly as it relates to the impartiality and neutrality of the Local Number Portability Administrator ("LNPA").[2] I have been concerned about the neutrality of the LNPA since I was a commissioner of the FCC.[3] I wrote a paper on LNPA neutrality in September 2012 that was submitted to the FCC, and I attach that paper as Appendix A.[4] That paper addressed the following points:

- Americans like to port their telephone numbers;
- Porting telephone numbers is a new rather than an ancient technology;
- Phone numbers have become part of our identity;
- Porting telephone numbers is essential to competition in telecommunications services;
- As with many new technologies, the quality and efficiency of porting telephone numbers has improved substantially over time;
- Keeping phone number administration neutral is important; and

[2] See in particular FCC Dockets 95-116; 07-149; and 09-109.
[3] See FCC, *Request of Lockheed Martin Corporation and Warburg, Pincus & Co. for Review of the Transfer of Lockheed Martin Communications Industry Services Business*, CC Docket No. 92-237, Dissenting statement of H. Furchtgott-Roth, released November 17, 1999 ("Warburg Dissent").
[4] H. Furchtgott-Roth, "The Importance of Neutrality in Number Portability Administration," comments filed by Neustar in FCC Dockets 95-116; 07-149; and 09-109, September 13, 2012.

• The Telecommunications Act of 1996 and Commission rules require impartiality and neutrality of numbering administration, including local number portability, and the Commission should enforce those rules.

I have reviewed my 2012 paper. In addition, I have reviewed various documents in Docket 09-109 that touch on neutrality issues. Based on my review of these documents, the opinions I expressed in my 2012 paper remain unchanged. Having reviewed many documents in this proceeding related to LNPA neutrality, I find that the opinions I expressed in that paper still hold today. LNPA neutrality matters now more than ever.

B. Qualifications

I am president of Furchtgott-Roth Economic Enterprises, an economic consulting firm. I am a senior fellow at the Hudson Institute where I founded and head the Center for the Economics of the Internet. I am an adjunct professor of law at Brooklyn Law School where I teach a course on communications law.

I was a commissioner of the Federal Communications Commission ("FCC" or "Commission") from November 1997 through the end of May 2001 while many of the provisions of the Telecommunications Act of 1996 were being implemented. In that capacity, I participated in all decisions of the Commission including those affecting number portability.

From June 2001 through March of 2003, I was a visiting fellow at the American Enterprise Institute for Public Policy Research ("AEI") in Washington, DC.

I have worked for many years as an economist. From 1995 to 1997, I was chief economist of the House Committee on Commerce where one of my responsibilities was to serve as one of the principal staff members helping to draft the Telecommunications Act of 1996.

My academic research concerns economics and regulation. I am the author or coauthor of four books: *A Tough Act to Follow?: The Telecommunications Act of 1996 and the Separation of Powers* (Washington, DC: American Enterprise Institute), 2006; *Cable TV: Regulation or Competition*, with R.W. Crandall, (Washington, DC: The Brookings Institution), 1996; *Economics of A Disaster: The Exxon Valdez Oil Spill*, with B.M. Owen, D.A. Argue, G.J. Hurdle, and G.R. Mosteller, (Westport, Connecticut: Quorum books), 1995; and *International Trade in Computer Software*, with S.E. Siwek, (Westport, Connecticut: Quorum Books), 1993.

I received a Ph.D. in economics from Stanford University and an S.B. in economics from MIT.

II. SUMMARY OF OPINIONS

Based on my review of documents related to neutrality in this proceeding, I reach the following conclusions:

- Neutrality for LNPA remains important and is reflected in both statute and federal rules;

- 47 CFR 52.26 unambiguously prohibits the LNPA from having interests in, among other areas, telecommunications network equipment manufacturing;
- The FCC did not delegate the assignment of LNPA contracts but assigned LNPA contracts through formal rulemaking with public notice and comment;
- The Commission should assign the LNPA contract to a vendor that is both in practice and in appearance neutral;
- Efforts to assign a contract to a non-neutral vendor undermines (1) the statute, (2) the credibility of the Commission, and (3) the efficient operation of communications markets;
- Assignment of the LNPA contract to a non-neutral vendor would also unnecessarily expose the Commission and the communications industry to years of litigation with an uncertain outcome;
- The unpredictable nature of the Commission's LNPA contract selection process has made less reliable the bids the FCC has received;
- Ericsson and its subsidiary Telcordia do not appear to meet standards of neutrality; and
- Ericsson's proposal for a "voting trust" would not lead to the impartiality and neutrality of Telcordia.

III. NEUTRALITY FOR THE LNPA REMAINS IMPORTANT AS IS REFLECTED BOTH IN STATUTE AND REGULATIONS

As I observed throughout my 2012 paper, neutrality of the LNPA is vitally important to the integrity of the communications industry. Numbering administration is by statute the responsibility of a government agency, the FCC. By statute, numbering cannot operate independently of the government. Government agencies rarely delegate to private parties the responsibility of assigning valuable government assets,[5] and local numbers are one such set of assets whose assignment the FCC has delegated for the past 16 years to one private company albeit pursuant to restrictive corporate covenants to ensure neutral administration.

The Communications Act instructs the FCC to have an "impartial" LNPA.[6] The Commission has incorporated the concepts of "impartial" administrator and the "neutrality" of the LNPA in several sections of the CFR.[7] Unless and until Congress rewrites the impartiality language of Section 251 or the Commission rewrites the impartiality and neutrality language of 47 CFR 52, the Commission must abide by the statute and *all* of the regulatory language that the Commission has promulgated on impartiality and neutrality.

[5] Furchtgott-Roth, at Table 1.
[6] 47 U.S.C. 251(e).
[7] 47 CFR 52.5, 52.11, 52.12, 52.13, 52.20, 52.21, and 52.26.

IV. 47 CFR 52.26 UNAMBIGUOUSLY PROHIBITS THE LNPA FROM HAVING INTERESTS IN, AMONG OTHER AREAS, TELECOMMUNICATIONS NETWORK EQUIPMENT MANUFACTURING

At its core, 47 CFR 52.26 provides neutrality conditions for the LNPA, including prohibiting interests, even through affiliates, in telecommunications network equipment manufacturing. I understand that there is a dispute in this docket about the language of 47 CFR 52.26 and the incorporation of much of the report prepared by the NANC's Local Number Portability Administration Selection Working Group ("SWG report"), dated April 25, 1997.[8] I discussed 47 CFR 52.26 in my 2012 paper.[9]

A. Telcordia is incorrect in suggesting that much of the language of SWG report is excluded from 52.26

Telcordia claims that much of the SWG report is excluded from 52.26, and only those sections specifically labeled "Recommendations" are included.[10] Telcordia states:

> The LNPA's neutrality requirement appears in the Code of Federal Regulations in only one place—in 47 C.F.R. § 52.21(k), which requires that the LNPA be "an independent, non-governmental entity, not aligned with any particular telecommunications industry segment, whose duties are determined by the NANC." The Code does not include any language expanding upon this broad statement.[11]

Telcordia's statement is incorrect as it omits other references to impartiality and

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[8] See 47 CFR 52.26. See also, .e.g, *Ex parte* letter from A.M. Panner, counsel for Neustar; Dockets 95-116, 07-149, and 09-109; May 6, 2014, pp. 6-7. *Ex parte* letter from J.T. Nakahata, counsel for Telcordia; Dockets 95-116, 07-149, and 09-109; May 9, 2014, pp. 1-2.
[9] H. Furchtgott-Roth, pp. 22-24.
[10] *Ex parte* letter from J.T. Nakahata, May 9, 2014.
[11] Ibid., p. 2.

neutrality in numbering administration. A greater oversight is that Telcordia claims that much of the SWG report is excluded from 52.26: "Neustar claims that this language was incorporated into the Commission's rules by 47 C.F.R. § 52.26(a), which requires local number portability administration to "comply with the *recommendations*" of the April 1997 Report."[12] [emphasis in the original]

> This interpretation is clearly incorrect. Section 52.26(a) states:
>
> > Local number portability administration shall comply with the recommendations of the North American Numbering Council (NANC) as set forth in the report to the Commission prepared by the NANC's Local Number Portability Administration Selection Working Group, dated April 25, 1997 (Working Group Report) and its appendices, which are incorporated by reference pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. Except that: Section 7.10 of Appendix D and the following portions of Appendix E: Section 7, Issue Statement I of Appendix A, and Appendix B in the Working Group Report are not incorporated herein.[13]

The excluded sections are not recommendations. Appendix B, for example, is a listing of working group and task force meetings and would have no place in federal rules. If Telcordia's interpretation that only language specifically marked "recommendations" were included, there would have been no reason for the Commission to have excluded those sections of the SWG report that are not included in 52.26.

B. Section 52.26 incorporates the neutrality conditions in Section 4 of the SWG report including the prohibition on affiliation with telecommunications equipment manufacturing

The structure of the SWG report with LNPA selection criteria in Section 4 leading to recommendations, including neutrality conditions that prohibit

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[12] Ibid.

[13] I should note that the language on exclusions in 52.26 does not match exactly the available language in the Second Report and Order. The same principles, however, hold.

affiliation with the manufacturing of telephone network equipment in Section 4, is stated at the beginning of the report:

> The LNPA Vendor Selection section (see Section 4) defines in some detail the criteria governing the selection process followed by a description of the actual process including an example of the neutrality requirement placed on LNPA vendors. ... This section sets the stage for the recommendations made in Section 6.[14]

In turn, the selection process is described in Section 4.2 of the SWG report. That recommended process specifically states as follows:

> B. To prevent such a conflict of interest, the Primary Vendor/System Administrator "NPAC" function <u>*will not*</u> be awarded to:
>
> 1.) any entity with a *direct material financial interest* in the *United States portion* of the North American Numbering Plan (NANP), and number assignments pursuant to the Plan, including (but not limited to) telecommunications carriers; [emphasis in original]
>
> 2.) any entity with a *direct material financial interest* in manufacturing telecommunications network equipment; [emphasis in original]
>
> 3.) any entity affiliated in other than a deminimus way in any entity described in 1.) or 2.) above, and;
>
> 4.) any entity involved in a contractual relationship or other arrangement that would impair the entity's ability to administer numbers fairly under the NANP and in accordance with the procedural delivery schedule set forth in the RFP.[15]

Telcordia attempts unsuccessfully to explain away the language in 4.2.2 as follows:

> While NANC concluded that the criteria used by the regional LLCs "met basic criteria for neutrality," it never stated or recommended that those particular specifications constituted the minimum requirements for

[14] SWG report, section 1.3.
[15] SWG Report, Section 4.2.

> neutrality. [incorrect reference made to 6.2.3] Thus, Section 4.2.2 does not establish mandatory neutrality criteria that would then be incorporated by reference into 47 C.F.R. § 52.26(a).[16] [footnotes omitted]

These statements are incorrect. The relevant reference for recommendations is not section 6.2.3 but rather Section 6.4 of the SWG report. Section 6.4 has recommendations that specifically incorporate the process and findings of Section 4.

> 6.4 LNP Administrator Selection
>
> - How the LNPA(s) should be selected
>
> 6.4.1 Process
>
> The LNPA Selection Working Group delegated responsibility to recommend how the LNPA(s) are selected to the LNPA Architecture Task Force.
>
> 6.4.2 Report Reference
>
> Section 12.2 of the "Architecture & Administrative Plan for LNP" contained in Appendix D defines the recommended criteria for LNPA selection.
>
> 6.4.3 Summary of Findings
>
> Initially, the Task Force reviewed the selection criteria as outlined in Section 4.1.1 above. The LNPA Architecture Task Force then reviewed the activities being undertaken to select LNPA vendors in the state/regional workshops and the regional LLCs. The Task Force concluded that the steps taken by the Service Providers in each region to organize the selection process led to adoption of a selection process in each region that satisfies the criteria.
>
> 6.4.4 Recommendation
>
> The LNPA Selection Working Group recommends adoption of the process used to make LNPA vendor selections.
>
> 6.4.5 Justification

[16] Nakahata ex parte letter, May 9, 2014, p. 2.

> The process used for LNPA vendor selection is extensively discussed in Section 4 above.[17]

In particular, sections 6.4.4 and 6.4.5 refer back to Section 4, which includes 4.2 presented above. I cannot read 47 CFR 52.26 and the 1997 SWG report and reach any conclusion but the language above is included in 52.26.

In my experience, the Commission from time to time incorporates language from outside documents. This is often the case with standard setting.[18] The Commission adopted the language of the SWG in a federal rule, and it is not for the Commission or the NANC subsequently to ignore the federal rule. The Commission through a rulemaking could choose to rewrite 52.26 or to incorporate more directly the language of the SWG report. Although the Commission has modified 52.26 a few times since 1997, including as recently as 2010,[19] it has never removed the references to the SWG report.

C. The force of 52.26 is not limited to whether it was raised at a particular time

Telcordia then attempts to suggest that, regardless of the SWG report language incorporated in 52.26, Neustar had not raised the issue in a timely manner and therefore had no basis to object under 52.26.[20] I would note that I clearly stated in 2012 that 52.26 included the SWG report language.[21] I would also note that the heading of 52.26 clearly reads "NANC Recommendations on Local Number Portability Administration." Consequently, it is difficult to understand

[17] SWG Report, Section 6.4.
[18] See, e.g., 47 CFR 68.317(g) which refers to an ANSI standard.
[19] See annotated 47 CFR 52.26.
[20] Nakahata ex parte, pp. 2-4.
[21] Furchtgott-Roth report, pp. 22-24.

(1) how NANC could have ignored 52.26; and (2) having ignored 52.26, how the NANC contract procedures could be defensible.

Regardless of whether anyone raised the unambiguous procedures of federal rules including 52.26 in the past, it defies common sense to suggest that a party may not raise procedural deficiencies today or in the future. That the NANC and a bureau of the Commission issued documents that may have violated federal rules adopted by the Commission without a clear objection at the time of issuance (Telcordia's apparent argument), does not preclude a party from objecting subsequently, either before the Commission acts or even afterward.

V. THE FCC CANNOT DELEGATE THE ASSIGNMENT OF LNPA CONTRACTS

In assigning LNPA contracts, the FCC does not delegate the responsibility to NANC or a third party. Instead, the FCC itself has consistently used standard administrative procedures with public notice and comment followed by formal rulemaking to consider recommendations. That is the process the FCC followed in August 1997 in the *Second Report and Order* in assigning Lockheed and Perot to be the two LNPAs.[22] Two years later, when Perot could no longer provide

[22] FCC, Docket 95-116, *Second Report and Order*, Adopted August 14, 1997. See particularly paragraph 2: "The NANC forwarded its recommendations to the Commission on May 1, 1997, in a report from its Local Number Portability Administration Selection Working Group, dated April 25, 1997 (Working Group Report). On May 2, 1997, the Commission's Common Carrier Bureau issued a Public Notice seeking comment on the NANC's local number portability recommendations."

services, the FCC, after public notice,[23] reassigned LNPA responsibilities to Lockheed's successor, Neustar, with a formal order.[24] Neustar documented this use of formal rulemaking in its comments in this proceeding.[25]

The Commission cannot simply delegate to a third party the responsibility of selecting an LNPA. Nor can the FCC assign an LNPA outside the context of formal administrative procedures with public notice and comment.

VI. THE COMMISSION SHOULD ASSIGN THE LNPA CONTRACT TO A VENDOR THAT IS BOTH IN PRACTICE AND IN APPEARANCE NEUTRAL

As the Commission has noted in the past, neutrality for LNPA in both fact and appearance are important.

> Neutral third party administration of the carrier routing information also ensures the equal treatment of all carriers and avoids any appearance of impropriety or anti-competitive conduct.[26]

It is impossible to read 47 U.S.C. 251(e) or 47 CFR 52 and interpret the language as inviting the FCC to assign as an LNPA an entity with substantial contracts with many companies in the telecommunications industry. Yet some comments in this proceeding suggest that an LNPA vendor may be deemed neutral in a technical sense even if the vendor or its affiliate has large contracts with many, but not all,

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[23] FCC, Docket 92-237, NSD File No. 98-151, *Order*, adopted November 12, 1999, paragraph 15. "In a Public Notice released on August 17, 1999, the Bureau sought comment from the public and from the NANC on the Amended Request."
[24] FCC, Docket 92-237, NSD File No. 98-151, *Order*, adopted November 12, 1999.
[25] FCC Dockets 09-109 and 95-116, Neustar comments, July 25, 2014, pages 58-61.
[26] FCC, Docket 95-116, *First Report and Order*, paragraph 92, Adopted June 27, 1996.

major corporations in the communications industry. The rationale is based on technical explanations.

The Commission should not be seeking a technical exception to neutrality but instead should be seeking vendors that are neutral in both fact and in appearance. Rather than finding technical loopholes to allow a partial and non-neutral company to be an LNPA, the Commission should enforce both the statutory requirement of impartiality and its rigorous neutrality rules and interpretations. The LNPA should be in both fact and appearance neutral.

VII. EFFORTS TO ASSIGN A CONTRACT TO A NON-NEUTRAL VENDOR UNDERMINES (1) THE STATUTE, (2) THE CREDIBILITY OF THE COMMISSION, AND (3) THE EFFICIENT OPERATION OF COMMUNICATIONS MARKETS

The impartiality provision of 251(e) is there for good reasons. The FCC adopted rules, including 52.26, to ensure neutrality also for good reasons. If the FCC were to assign a contract to an LNPA administrator that is neither impartial nor neutral, the reliability of the rule of law at the FCC would be undermined. Lost as well would be the credibility of the FCC to be a trusted implementer of the law. A Commission that today can simply ignore federal rules written by prior Commissions, without formally changing those federal rules, cannot be relied upon to implement other provisions of statute or rules. Finally, impartiality and neutrality are in law and regulation to give confidence to the public and to businesses in the communications industry that the communications industry can operate efficient with number portability. This theme was often repeated in both the *First Report and Order* and the *Second Report and Order*. Failing to ensure

neutrality undermines the efficiency of communications markets.

VIII. ASSIGNMENT OF THE LNPA CONTRACT TO A NON-NEUTRAL VENDOR WOULD ALSO UNNECESSARILY EXPOSE THE COMMISSION AND THE COMMUNICATIONS INDUSTRY TO YEARS OF LITIGATION WITH AN UNCERTAIN OUTCOME

Assignment of an LNPA contract to a non-neutral entity would not merely undermine the statute and the effectiveness of the FCC and the efficient operation of the communications market, it would also likely lead to the Commission and the industry to years of unnecessary litigation. It would be naïve to believe that an assignment of a contract that is outside of federal rules would not attract litigation. While the Commission might eventually prevail in that litigation, the uncertainty for both the Commission and for businesses that rely on number portability would be substantial. If the Commission were to lose the litigation, the Commission would not only have spent needless years in litigation, but it would also have harmed the very consumers that the FCC is charged with protecting.

IX. THE UNPREDICTABLE NATURE OF THE COMMISSION'S LNPA CONTRACT SELECTION PROCESS HAS MADE LESS RELIABLE THE BIDS THE FCC HAS RECEIVED

Independent of the neutrality issue, the LNPA selection process has been challenged with many irregularities, both in the NANC process and in the FCC review process.[27] In particular there are serious issues about the consistency of the selection process with federal laws and rules. These irregularities not only expose the Commission and the communications to the uncertainty of litigation

[27] See, e.g., FCC Dockets 09-109 and 95-116, Neustar comments, July 25, 2014, pages 50-75. Neustar reply comments, August 22, 2014, pages 30-39.

reviewed in the last section, but the irregularities may also affect the nature of proposals submitted. A business that has reason to doubt that a contract selection process is lawful would reasonably, from an economic perspective, be less inclined to invest fully the resources necessary for a proposal.

The Commission should address both the bid irregularities and the neutrality issue jointly. To reach an assignment of an LNPA that will have the confidence of industry and consumers alike, the Commission needs a selection process that is beyond reproach. Such a selection process will discourage potential litigation as a useless exercise. As part of that selection process, the Commission should have clear explanations on neutrality of the LNPA, consistent with current federal rules.

The frustration of Telcordia is palpable. In a recent ex parte filing, Telcordia stated:

> It is time for the Commission to complete the selection process for the Local Number Portability Administrator ("LNPA"). Telcordia has been pushing to bring competition to number portability administration for the past ten years.[28]

The delay that Telcordia describes will only be lengthened if the Commission adopts a flawed contract process.

[28] *Ex parte* letter from J.T. Nakahata, counsel for Telcordia; Dockets 95-116, 07-149, and 09-109; December 18, 2014, p. 1.

X. ERICSSON AND ITS SUBSIDIARY TELCORDIA DO NOT MEET STANDARDS OF LNPA NEUTRALITY

A. Ericsson and Telcordia are not Neutral

Neustar has placed in the record in this proceeding substantial evidence that Ericsson is neither neutral nor impartial.[29] Telecordia argues that both it and its parent Ericsson are "neutral."[30] As it has substantial interests in providing services and equipment to wireless telecommunications service providers, Ericsson is "aligned with [a] particular telecommunication industry segment" and consequently does not appear to be neutral under either 52.12(a)(1)[31] or 52.21(k).[32]

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[29] *See* Comments of Neustar, Inc., WC Docket No. 09-109 and CC Docket No. 95-116 (filed July 25, 2014) ("Neustar Comments"); Reply Comments of Neustar, Inc., WC Docket No. 09-109 and CC Docket No. 95-116 (filed Aug. 22, 2014) ("Neustar Reply Comments"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (Oct. 17, 2014) ("October 2014 Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (Sept. 23, 2014) ("September 2014 Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (June 2, 2014) ("June 2014 Ex Parte Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, CC Docket No. 95-116 and WC Docket No. 09-109 (May 19, 2014) ("May 19, 2014 Ex Parte Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (May 6, 2014) ("May 6, 2014 Ex Parte Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (Oct. 9, 2012) ("October 2012 Ex Parte Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (Sept. 25, 2012) ("September 25, 2012 Ex Parte Letter"); Letter from Aaron M. Panner to Marlene H. Dortch, WC Docket No. 09-109 and CC Docket No. 95-116 (Sept. 11, 2012) ("September 11, 2012 Ex Parte Letter").

[30] See, e.g., *Ex parte* letter from J.T. Nakahata, counsel for Telcordia; Dockets 95-116, 07-149, and 09-109; December 18, 2014, pages 3-4.

[31] "The NANPA and the B&C Agent shall be non-governmental entities that are impartial and not aligned with any particular telecommunication industry segment."

[32] "The term local number portability administrator (LNPA) means an independent, non-governmental entity, not aligned with any particular telecommunications industry segment, whose duties are determined by the NANC."

Nor do Ericsson, and by extension its subsidiary Telcordia, appear to avoid problems of "undue influence by parties with a vested interest in the outcome of numbering administration and activities" under 52.12(a)(1)(iii).[33] Nor do Ericsson and Telcordia meet the standards of 52.26 which prohibit an LNPA contract assignment to an entity, or an affiliated of an entity, engaged in telecommunications network equipment manufacturing.[34] As long as Ericsson manufactures telecommunications network equipment, its affiliate Telcordia is barred under 52.26 from being the LNPA. For all of these and other reasons discussed above, neither Ericsson nor Telcordia meets the neutrality requirements of the LNPA section process.

B. A Recommendation from NANC, consisting largely of Ericsson customers, is not an indication of Ericsson's neutrality

Telcordia confuses the language of FCC rules for neutrality.

> Neustar has repeatedly suggested that Telcordia's parent, Ericsson, might somehow be subject to undue influence because it has contracts with a number of wireless providers. But these scare tactics defy reality. Ericsson's entire business model depends on its customers' trusting that it will act neutrally. Ericsson provides equipment and services to a wide variety of different providers—many of which are competitors—across telecommunications industry segments.[35]

FCC neutrality rules under 52.12, 52.21, and 52.26 do not refer to whether an entity "provides equipment and services to a wide variety of different providers" nor do the rules depend on whether an entity's customers—as distinct from non-

[33] "Notwithstanding the neutrality criteria set forth in paragraphs (a)(1) (i) and (ii) of this section, the NANPA and B&C Agent may be determined to be or not to be subject to undue influence by parties with a vested interest in the outcome of numbering administration and activities."
[34] See discussion in Section IV above.
[35] Nakahata ex parte letter, December 18, 2014, pp. 3-4.

customers—trust "that it will act neutrally." As noted above, Ericsson, and consequently its wholly owned subsidiary Telcordia, do not meet FCC rules on neutrality.

Moreover, it is inaccurate to say "Ericsson's entire business model depends on its customers' trusting that it will act neutrally." As with any business that sells equipment and services to customers under contract, Ericsson is viewed by its customers as neutral with respect to other customers, but not neutral with respect to non-customers. Ericsson has a duty to its customers, but not to other entities.

Telcordia attempts to say that, because NANC voted to recommend Telcordia, Telcordia must therefore be neutral.

> In any case, the members of the industry who would ultimately bear the brunt of any neutrality issues have, for the most part, demonstrated their confidence that Telcordia will manage the NPAC neutrally. The NANC, whose membership is required to be balanced and includes representatives of numerous carriers—large and small—across all segments, unanimously recommended Telcordia as the next LNPA. This includes carriers such as AT&T and Verizon that directly compete nationally with T-Mobile and Sprint. It also includes wireline carriers, cable VoIP providers and over-the-top VoIP providers. If there were significant concerns that Telcordia would favor wireless providers, these providers would not have recommended Telcordia's selection.[36]

The logic is wrong. Many if not all of the members of NANC are customers of Ericsson. It is not surprising that customers of Ericsson would endorse Telcordia as an LNPA. Moreover, two or even a large number of entities cannot deem Telcordia to be nonetheless neutral as long as a party today or in the future would object. It is my understanding that some parties object today, and no doubt others

[36] Nakahata ex parte letter, December 18, 2014, p. 4.

might in the future. Telcordia mistakenly suggests that endorsement by NANC members is equivalent to the endorsement by the entire industry.

Moreover, even if some members of NANC are not customers of Ericsson, it does not follow that the vote of one or more such companies is a clear demonstration of Telcordia's neutrality. It may simply mean that these companies preferred one proposal to another without taking a position on neutrality. More importantly, FCC rules on neutrality are not based on popularity contests. FCC neutrality are based on conditions that Ericsson, and its subsidiary Telcordia, do not appear to meet. FCC neutrality rules do not state that they can be waived by the vote of NANC or any other entity.

C. Both Ericsson and Telcordia must be neutral for Telcorida lawfully to be awarded an LNPA contract

In its comments, Telcordia appears to suggest that Telcordia can be neutral for LNPA purposes regardless of the status of its parent Ericsson.[37] But the thrust of federal rules related to LNPA neutrality,[38] to say nothing of statutory language under 251(e), undermines the possibility that Telcordia can be neutral if Ericsson is not. Telcordia is an affiliate of Ericsson, specifically precluded from serving as LNPA by rules such as 52.26.

More importantly, from an economic perspective, Telcordia is the wholly-owned subsidiary of one of the world's largest providers of equipment and services to telecommunications service providers in the United States. It is impossible to believe that the economic interests of the subsidiary will not be

[37] See, e.g., Nakahata ex parte letter, December 18, 2014, pages 3-4.
[38] See, e.g., 47 CFR 52.12, 52.21, and 52.26.

closely if not identically aligned with its parent. In this instance, the parent's (Ericsson's) economic interests are substantial greater and would overshadow any economic interests of the much smaller subsidiary, Telcordia.

Under the Communications Act generally, and under FCC rules in particular, affiliate and subsidiary relationships are not uncommon. Statute and rules often address these relationships. Rarely does the Commission treat wholly-owned subsidiaries as having economic interests unrelated to a parent. Section 52.12 states that an entity that owns 10% of a second entity is deemed to control that second entity and thus be affiliated with it. Section 52.26 holds that a entity engaged in the manufacturing of telecommunications network equipment, or an affiliate of such an entity, are not neutral for purpose of LNPA neutral. Such an entity is barred from being designated as the LNPA administrator.

If Ericsson were to spin off Telcordia and sever all ties with Telcordia, the new Telcordia may very well be found neutral under Commission rules. But for Telcordia to be neutral, the severing of the relationship between Ericsson and Telcordia would have to occur *before* Telcordia would apply for the LNPA position, not *after* an award.

D. The FCC could develop specific safeguards for Telcordia only by formal rule

The fundamental neutrality problems of Telcordia cannot be easily remedied even by Commission rule. Even if the Commission determined to write

specific safeguards specifically for Telcordia as LNPA, the Commission would face three daunting challenges:[39]

1.From an economic perspective, Telcordia would always remain the wholly-owned subsidiary of Ericsson and thus permanently tied to its economic interests. No rules will change that economic relationship.

2. Regardless of the economic relationship, current federal statutes and rules, such as 52.26, prohibit Telcordia from being awarded the LNPA contract. The FCC could rewrite the existing rules on neutrality to allow Telcordia to be awarded the LNPA contract, but those rules can be rewritten only through formal administrative processes will public notice and comment. To date, the FCC has not initiated such a rulemaking.

3. Finally, the specific safeguards that the FCC might envision can be codified, but only in formal rules. Again, such rules would have to be the product of a formal rulemaking, which the FCC has not begun.

Even if the Commission were to pursue a formal rulemaking process both to change its neutrality rules and to create new rules under which Telcordia could be designated as neutral, the rulemaking process would have dubious legitimacy if the outcome were predetermined to benefit a specific business interest. Any rule

[39] It was for these and related reasons that I dissented from the FCC's 1999 Order assigning LNPA contract to the predecessor of Neustar. Even after formal administrative rulemakings, I did not find the safeguards to pass any plausible definition of "impartial" or "neutral." Today, it is impossible to imagine that the FCC can reach such standards for Telcordia whose parent is Ericsson, and that such results can be obtained without any pretense of a public notice and rulemaking. Yet Telcordia urges such impossibilities upon the FCC.

change should have been both initiated and completed before a contract process. A rulemaking to change rules was never initiated, much less completed.

Dubious administrative processes and shoddy rule changes will be challenged in court. Different parties may have different views on the timing and the likelihood that the FCC will prevail on those legal challenges. Regardless of the court outcome, the Commission's reputation as an advocate for neutrality not only in LNPA but in other areas as well will be tarnished.

E. The FCC risks both law and credibility by having different neutrality rules for Neustar and Telcordia

Above, I describe the seemingly insurmountable hurdles for the FCC to craft specific rules just for Telcordia to have some semblance of neutrality. Those impossible conditions might have held in 1999 had the Commission sought to award the LNPA contract to Telcordia at that time.

But the FCC would be even more challenged today to award the LNPA contract to Telcordia because, for more than 16 years, the FCC and Neustar have operated under more exacting neutrality rules, rules that would not permit even the consideration of a Telcordia LNPA. For the FCC now to change—or worse, ignore—those rules which a prior FCC promulgated to protect neutrality for the sole purpose of allowing Telcordia to win the LNPA contract would expose the Commission to substantial court challenges. It would also reveal the FCC to have a callous indifference to the entire concept of neutrality and impartiality. Regardless of the outcome of the court challenges, the FCC's credibility will be diminished.

XI. ERICSSON'S PROPOSAL FOR A "VOTING TRUST" WOULD NOT LEAD TO THE IMPARTIALITY AND NEUTRALITY OF TELCORDIA

As I understand it, Ericsson has proposed a "willingness to discuss" a "voting trust" for Telcordia.[40] Even with a voting trust, Ericsson would still own and control all of Telcordia. Ericsson proposes placing only "a portion"—not all—of its interests in Telcordia in the voting trust. Ericsson would select the Trustees, albeit with FCC approval. The voting trust would be limited in its discretion. Essentially, what Ericsson proposes is to allow the FCC to have the opportunity to review its selection of part of the management of Telcordia. Nowhere does Ericsson propose steps that would cure the impartiality and neutrality deficiencies discussed above. All of those deficiencies would remain even if Ericsson were to adopt a voting trust. The inadequacy of a voting trust to address the failings of neutrality is not a new issue at the Commission. It is precisely for that inadequacy that I dissented in 1999.[41] Ericsson's proposal would allow it not merely to appoint trustees but to remove them, even for that unspecified portion of Telcordia over which the trustees would have some appearance of influence. Complete control, however, would remain with Ericsson, as it inevitably must from a fiduciary perspective for a wholly-owned subsidiary. As discussed above, Ericsson and its wholly-owned subsidiary are neither impartial nor neutral with respect to local number portability. The creation of voting trust would not alter that condition.

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[40] *Ex parte* letter from J.T. Nakahata, counsel for Telcordia; Dockets 95-116, 07-149, and 09-109; February 9, 2015, pp. 1-2.

[41] Warburg dissent.

Appendix A

2012 Paper on Neutrality

Federal Communications Commission

The importance of neutrality in number portability administration

Re. FCC Dockets 95-116; 07-149; and 09-109.

Harold Furchtgott-Roth[1]

DATE

[1] President, Furchtgott-Roth Economic Enterprises. I gratefully acknowledge a generous grant from Neustar to underwrite part of this research project. The views expressed, and any errors, in this report are entirely my own.

I. INTRODUCTION AND BACKGROUND

A. Background

I have reviewed much of the recent record in the FCC dockets related to the administration of local number portability.[2] The FCC has compiled much useful information to help it, the North American Numbering Council ("NANC") and others consider how best to move forward with numbering plan administration including the selection of future local numbering plan administrator[s].[3] But little of the recent record focuses on an issue that has been of great concern to me for more than a decade: the neutrality of numbering administration.[4] Consequently, I am writing this paper to remind the FCC and others that neutrality matters now more than ever.

B. Qualifications

I am president of Furchtgott-Roth Economic Enterprises, an economic consulting firm. I am a senior fellow at the Hudson Institute where I founded and head the Center for the Economics of the Internet.

I was a commissioner of the Federal Communications Commission ("FCC" or "Commission") from November 1997 through the end of May 2001 while many of the provisions of the Telecommunications Act of 1996 were being implemented. In that capacity, I participated in all decisions of the Commission including those affecting number portability.

From June 2001 through March of 2003, I was a visiting fellow at the American Enterprise Institute for Public Policy Research ("AEI") in Washington, DC.

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[2] See in particular FCC Dockets 95-116; 07-149; and 09-109.
[3] See recent FCC documents on the selection of local numbering plan administrators including FCC 11-454.
[4] See FCC, *Request of Lockheed Martin Corporation and Warburg, Pincus & Co. for Review of the Transfer of Lockheed Martin Communications Industry Services Business*, CC Docket No. 92-237, Dissenting statement of H. Furchtgott-Roth, released November 17, 1999 ("Warburg Dissent").

I have worked for many years as an economist. From 1995 to 1997, I was chief economist of the House Committee on Commerce where one of my responsibilities was to serve as one of the principal staff members helping to draft the Telecommunications Act of 1996.

My academic research concerns economics and regulation. I am the author or coauthor of four books: A Tough Act to Follow?: The Telecommunications Act of 1996 and the Separation of Powers (Washington, DC: American Enterprise Institute), 2006; Cable TV: Regulation or Competition, with R.W. Crandall, (Washington, DC: The Brookings Institution), 1996; Economics of A Disaster: The Exxon Valdez Oil Spill, with B.M. Owen, D.A. Argue, G.J. Hurdle, and G.R. Mosteller, (Westport, Connecticut: Quorum books), 1995; and International Trade in Computer Software, with S.E. Siwek, (Westport, Connecticut: Quorum Books), 1993.

I received a Ph.D. in economics from Stanford University and an S.B. in economics from MIT.

II. SUMMARY OF OPINIONS

Based on my review of documents related to this proceeding, I reach the following conclusions:

- Americans like to port their telephone numbers;
- Porting telephone numbers is a new rather than an ancient technology;
- Phone numbers have become part of our identity;
- Porting telephone numbers is essential to competition in telecommunications services;
- As with many new technologies, the quality and efficiency of porting telephone numbers has improved substantially over time;

- Keeping phone number administration neutral is important; and
- The Telecommunications Act of 1996 and Commission rules require neutrality of local number portability administration, and the Commission should enforce those rules.

III. AMERICANS LIKE TO PORT THEIR TELEPHONE NUMBERS

We each have identities, some given and some that we choose. We each have a name, we choose clothes, we choose a hair style, and we choose countless characteristics by which we identify ourselves, and by which others identify us.

Our identity is not bound by specific institutions. Our parents were not limited in choosing our name by the hospital where we were born. When we move from one apartment to another, or from one city to another, we are not forced to change our name. Our choice of clothes is not limited to those offered by the store where our parents bought our first clothes, assuming that store still exists. We can choose a hair stylist and not be bound to the one who cut our hair before.

Further, if we don't like our clothes, our hair style, or even our name, we can change it. Our identity is bound up in choice, choices that we are free to make among a vast array of competing providers. Our identity is not determined because we have no choice; our identity is determined by the endless choices we make.

Part of our identity is our telephone number. We have one or more wireless numbers, perhaps a landline number at home, and perhaps another one at work. While we cannot change our employer's work number, we can often change or keep our personal numbers, wireline or wireless. When we switch from one wireless carrier to another, or from one wireline carrier to

another, or even from wireline to wireless, we can keep our phone number.[5] To many of us, the phone number *belongs* to us, and we take this possession almost for granted.

The importance of porting to the American people is demonstrated by the numbers. Table 1 presents the number porting activity in the United States since the FCC began tracking this activity on November 24, 2003.[6] As can be seen in Table 1, most number porting activity is intramodal, that is, wireline to wireline or wireless to wireless. The rate of number porting activity has increased substantially since 2003. The most recent data (First quarter of 2010) show approximately 4 million wireline-to-wireline number ports and a roughly equal number of wireless-to-wireless number ports. Those numbers are equivalent to approximately 44,000 number ports per day. Given that there are approximately 150 million wireline subscribers[7] in the United States and approximately 300 million wireless customers,[8] these numbers indicate that approximately one in ten wireline numbers is ported each year, and approximately one in 20 wireless numbers. In little more than 6 years, nearly 170 million telephone numbers were ported in the United States. The rate of number porting appears to be increasing.

Table 2 presents the number of telephone numbers in the porting data base at the end of each quarter. Some phone numbers drop out of the data base as they are disconnected. Even so, more than 67 million wireline numbers remained in the porting data base in early 2010 showing that approximately 45 percent of wireline numbers have been ported. More than 45 million wireless numbers remained in the porting data base showing that approximately 15 percent of wireless numbers have been ported.

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[5] There are limitations on number porting for wireline across wide geographies.
[6] See FCC-02-215, Number Portability, Docket 95-116, *Memorandum Opinion and Order*, released July 26, 2002.
[7] FCC, "Local Telephone Competition: Status As of December 31, 2010," released October 2010. There were 148,572,000 switched access and VoIP lines as of December 31, 2010, Figure 2. At http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-310264A1.pdf.
[8] FCC, *15th Annual Wireless Competition Report*, FCC 11-103, released June 27, 2011. "[A]t the end of 2009 there were 274.3 million subscribers to mobile telephone, or voice, service." At 8. At http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-103A1.pdf.

The frequency of number porting is extraordinary. It demonstrates the importance of number porting to the American public. Today, consumers switch providers, particularly wireless providers, frequently, and those consumers reasonably assume that they can keep their phone number if they so choose. Millions of consumers port numbers each year without even thinking about it. Even for wireline services, number porting is increasingly common. Internet-based services such as Vonage, Google Voice, and Skype have phone numbers that may be located anywhere in the world. Fifteen years ago, one could look at a ten-digit phone number and know exactly the geography of that number. Today, that is no longer the case.

IV. FOR MUCH OF THE HISTORY OF TELEPHONY, PHONE NUMBERS COULD NOT BE PORTED

The telephone was invented in the late 19th century. Telephone numbers followed soon thereafter. In the early decades of telephone service, telephone numbers were for the benefit of telephone companies better to track and bill their customers than for the benefit of customers better to identify themselves. And there the role of telephone numbers remained.

In the first half of the 20th century, phone numbers in the United States were not standardized in length or form. A small town with a small exchange would have had an operator-controlled switchboard with phone numbers with at most a few digits. Party lines were common. In cities, seven-digit numbering systems evolved with the deployment of automated switching equipment in the 1920s, 1930s, and 1940s.[9]

For much of the 20th century, the miracle of telephony did not include a choice of retaining telephone numbers beyond an initial assignment. The telephone numbering system of the early 20th century was not designed to contemplate, much less permit, consumers to retain

[9] For a history of switching equipment, see *Survey of Telephone Switching*, Pacific Telephone and Telegraph Company, 1956, at http://www.telephonetribute.com/switches.html.

their telephone numbers when they moved.[10] The ten-digit North American Numbering Plan that we take for granted today evolved slowly over time. Area codes were only conceived in the 1940s and widely assigned in the 1950s.[11] While direct long-distance dialing began in the 1950s,[12] it was not ubiquitous until the 1960s. Even in the second half of the 20th century, a customer when signing up for phone service might have been offered some numbers within a 10,000 number block, but could not keep the number when moving.

Twenty years ago, porting a number was a novel idea. You might have been able to keep your number if you moved within a neighborhood. If you moved across town or across America, you got a new telephone number. The newly developing wireless industry also had new phone numbers. If you were one of the few people with a wireless phone, you were assigned your phone number from your carrier. If you switched wireless carriers, you got a new phone number. No one but fledgling wireline competitors thought much about the absence of number portability. Twenty years ago, it was a form of science fiction; it did not exist.

V. PHONE NUMBERS HAVE BECOME PART OF OUR IDENTITY

The technological expedience of telephone numbers, which were developed to help telephone companies, quickly became an integral part of identities, both for individuals and private firms. If telephone numbers were a matter of perfect indifference for individuals, keeping them and porting them would not matter. But telephone numbers have become personal and valuable to individuals, and that is why porting them has become popular.

First, let's consider how telephone numbers have become part of personal identity. At the beginning of the 20th century, when telephony was developing, individuals had few numbers as

[10] Switching providers was not a market possibility until the last decade of the 20th century.
[11] See "North American Numbering Plan Planning Letter," BellCore PL-NANP-038, January 23, 1997, at page 3, at http://www.nanpa.com/pdf_previous/08_02_99/pl_nanp_038.pdf.
[12] See http://www.corp.att.com/attlabs/reputation/timeline/51trans.html.

part of their identity. They had a birth date and associated age, and they may have had a street number address. That's it.

At the beginning of the 20th century individuals did not have the unending array of numeric identities that we have today. They did not have a social security number, a set of credit and debit card numbers, a collection of bank account numbers, an array of retirement account numbers, a passport number, a drivers license number, an employee identification number, a hospital patient identification number, a draft number, a student identification number—or even a phone number. Today, we have a seemingly endless array of numbers that identify us. Most are private and confidential, and we do not memorize or share them with anyone. We view most of them as private, and we would be offended to be identified by them except under specific circumstances related to that number. They are part of our private persona.

But one set of numbers we have committed to memory, and we share them with family and friends who also commit them to memory—our telephone numbers. We program them into our cell phones and our computers. We can reach others, and others can reach us, for a phone call, a text, or even a video conference via our phone number. At the end of the 19th century, a personal address would have a list of names and associated street addresses. By the end of the 20th century, despite the creation of countless personal identification numbers, only two types of information would routinely be added to an address book: phone number(s) and email address(es). These phone numbers, often available online, are part of our public persona.

We have no personal attachment to most of the numbers that identify us. Some confidential numbers, such as our social security number, is assigned to us for life. We cannot change it even if we wanted to. But most confidential numbers change over time, and we are indifferent to those changes. When we change banks, we do not ask our new bank to keep the same account numbers we had with our former bank. The same is true of credit card companies.

When we move to a new state and get a new drivers license, we do not ask to keep our former driver's license number. For most numbers that confidentially identify us, we do not care about the number, and we do not insist on keeping the same one. Most confidential numbers simply are not portable.

Telephone numbers are different. Once we have a telephone number that is widely used by friends and family, we do not want to change it because it's difficult to let everyone know a new number for reaching you. Even if we could easily let everyone know our new phone number, it would be inconvenient for friends and family to adjust to the new number. Our current phone number is programmed into their handsets, registered in their computers, and even locked in their memories.

The portability of identity information is important for our public identity. Our friends, family, and acquaintances want to recognize us, and we want to be recognizable to them. People recognize us by our name, our smile, our eyes, our facial expression, our voice--even our hair and clothes. We take those with us wherever we go. And, in recent years with wireless and VoIP services, we take our telephone number with us as well.

Phone numbers have also become part of the identity of businesses. Businesses put their phone numbers on advertising from outdoor advertising, to print media, to broadcast media, and electronic media. These and other businesses can and do choose telecommunications providers from a wide range of competitive providers. These companies keep their phone numbers even when they shift the portfolio of services provided by different telecommunications companies.

VI. PORTING TELEPHONE NUMBERS IS ESSENTIAL TO COMPETITION IN TELECOMMUNICATIONS SERVICES

Personal and corporate identities are not the only sources of demand for porting of telephone numbers. Telecommunications competition is as well. One of the hallmarks of a

competitive telecommunications system is the ability of consumers and businesses to port telephone numbers from one provider to another with minimal transactions costs—both time and money. In the face of the substantial advertising and marketing expense a business incurred to familiarize the public with its number, no business would be willing to switch providers regardless of how much lower the cost and higher the quality of service. Similarly, relatively few consumers would move to a competitor if they could not take their number with them.

Wireless telephone services began in the 1980s, and demand exploded over the next 10 years. Wireless subscribership grew from fewer than 100,000 to more than 24 million between 1984 and 1994.[13] The early 1990s also saw the emergence of new competitive wireline carriers, particularly for business customers in urban centers. The number of competitive access providers ("CAPs") and competitive local exchange carriers ("CLECs") grew from 20 in 1993 to 57 in 1995 to 129 in 1997.[14] In the absence of number portability, however, competitive providers were largely limited to providing alternative special access and private line services for which local telephone numbers were less relevant than local switched services.

The growth in wireline competition, and subsequently wireless competition, was substantially facilitated by a statutory change in the Telecommunications Act of 1996 which required number portability by local exchange carriers.[15] The House Commerce Committee Report noted that "the ability to change service providers is only meaningful if a customer can retain his or her local telephone number."[16]

The mid 1990s were a time of dramatic changes in the telecommunications industry in the United States and around the world. New technologies were bubbling up offering new

[13] FCC, FCC 95-317, First Commercial Mobile Services Competition Report, released August 18, 1995, Table 1, at http://wireless.fcc.gov/auctions/data/papersAndStudies/fc95317.pdf.
[14] FCC, "Trends in Telephone Service," released May 6, 2004, at Table 8.7. See http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend504.pdf. State_Link/IAD/trend504.pdf
[15] 47 U.S.C. 251(b)2. In addition, local number portability was part of the competitive checklist for Regional Bell Operating Company entry into long-distance service. See 47 U.S.C. 271(c)2B.
[16] House of Representatives Committee on Commerce Report on H.R. 1555, at 72, July 24, 1995.

services, services that often wanted to compete with, or be offered by, existing providers in heavily regulated industries. With the collapse of the Soviet empire, the notion that competition rather than government agencies could best serve the needs of consumers animated public discussion around the world.

Switching to competition was not easy. Among the challenges was number portability: could competition work effectively without it? Some observers said it could. But others said that number portability was a precondition to effective competition. The Congress and the FCC agreed.

In 1996, the FCC wrote initial rules under Part 52 mandating number portability to become effective between 1997 and 1998 for wireline carriers.[17] After local number portability became widely available, the number of CLECs and the number of subscribers to competitive services grew substantially.[18] The FCC subsequently extended local number portability requirements to wireless carriers[19] and to VoIP providers.[20] These rules have evolved over time. While the FCC received some comments in this proceeding questioning whether number porting regulations were necessary for competition to develop,[21] many other comments linked competition to number portability.[22]

In its 1996 proceeding, the FCC reviewed many different technological solutions to number portability all based on new and competing computer-based technologies.[23] In 1996,

[17] FCC, FCC 96-286, CC Docket 95-116, First Report and Order and Further Notice of Proposed Rulemaking, released July 2, 1996.
[18] See generally FCC, "Trends in Telephone Service," released May 6, 2004, for the growth in competitive services. See http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend504.pdf.
[19] Ibid. Wireless local number portability was originally scheduled for 1999. In a series of orders, the FCC granted extensions of wireless local number portability until it was widely implemented in 2003. See FCC CCC Docket 95-116, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, released November 10, 2003.
[20] FCC, FCC 07-188, WC Docket No. 07-243, WC Docket No. 07-244, WC Docket No. 04-36, CC Docket No. 95-116, and CC Docket No. 99-200, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, released November 8, 2007.
[21] Ibid., at paragraph 28 and fn 69.
[22] Ibid., e.g., at paragraphs 28-40.
[23] Ibid., at paragraphs 12-25.

computer technology had evolved to the point where many different forms of number portability were feasible. Telephone number portability would have been technologically challenging in the 1980s or earlier, even if there were demand for number porting then. Without advances in computer technology, number porting would not have developed.

The emergence of telecommunications competition and local number portability simultaneously in the late 1990s was not a coincidence. The former could not have developed without the latter, and the enormous technological advances of the latter were spurred by demand from the former.

Telecommunications competition in America did not develop in exactly the way many thought it would. Unexpected paths are part of the nature of competition. Some forms of competition failed to develop for any number of reasons. Many books have been written on the topic with many theories about what might have gone wrong.[24] In countless writings about telecommunications competition in the United States, local number portability is rarely if ever even mentioned as a possible culprit. In a system in which much went wrong, number portability stands out as an example of what went right.

Over the past 20 years, wireless services caught up with, and now substantially surpass, wireline services. As important as local number portability has been to wireline services, it has been even more important to wireless services. Individuals can and do switch wireless service providers in one of the most fiercely competitive and innovative industries in America. Think, for example, of the millions of consumers that flocked to AT&T Wireless when it was the only carrier on which Apple's iPhone would work or those who moved to other carriers when they too got the iPhone. These and other shifts in customers would not have been nearly as great without wireless local number portability. The wireless industry would not be nearly as competitive or innovative without local number portability.

[24] See, e.g., H. Furchtgott-Roth, *A Tough Act to Follow*, AEI Press, 2006.

VII. AS WITH MANY NEW TECHNOLOGIES, THE QUALITY AND EFFICIENCY OF PORTING TELEPHONE NUMBERS HAS IMPROVED SUBSTANTIALLY OVER TIME

The FCC initially mandated local number portability in 1996.[25] Docket 95-116, the number porting docket, continues today with unending challenges to the technology and provision of local number portability services.[26]

Porting telephone numbers in a short period of time was a technological challenge that was not immediately solved. Local number portability required substantial coordination efforts by two rivalrous—sometimes mutually hostile— firms, one losing a customer and the other gaining a customer, as well as efforts by a third-party local number administrator with advanced technologies. The wonder is not that local number portability sometimes does not work well. The wonder is that it works at all.

The struggles of local number portability were immediately obvious to telecommunications carriers and to the Commission. Initially in August 1997, two companies—Lockheed Martin and Perot Systems Corporation—were recommended by the NANC and approved by the FCC to provide local number portability administration in various regions.[27] "Specifically, the NANC recommends that Lockheed Martin serve as the database administrator for the Northeast, Mid-Atlantic, Midwest and Southwest regions and that Perot Systems serve as the database administrator for the Southeast, Western and West Coast regions."[28]

Less than seven months later, the local number portability administration plans came unraveled as many large telecommunications carriers were forced to petition the FCC seeking a

[25] FCC, Telephone Number Portability, *First Report and Order and Further Notice of Proposed Rulemaking*, Docket 95-116, July 2, 1996.
[26] As of April 23, 2012, the Commission has issued 168 documents in the docket (EDOCS) and 3,914 comments have been posted in the docket (ECFS).
[27] , FCC-97-289, Number Portability, *Second Report and Order*, released August 18, 1997.
[28] Ibid.

delay in implementing local number portability. As the FCC explained in unusually blunt language in a public notice:

> Individually, the petitioners state that their respective implementation delays are due to the failure of Perot Systems Corporation (Perot), the Number Portability Administration Center (NPAC) vendor originally contracted by the Southeast, Western and West Coast LLC Regions to provide a stable platform to support local number portability. Petitioners further advise that the Southeast, Western and West Coast LLCs have dismissed Perot and have recently contracted with Lockheed Martin-IMS who will have an NPAC ready on May 11, 1998. Once the NPAC is in place, carriers state that they must do testing of various ordering systems before local number portability can become commercially available."[29]

Administering local number portability turned out to be a difficult challenge, and the telecommunications carriers had little tolerance for delays or poor performance.

Number portability was part of the Section 271 "checklist" for Bell Operating Companies to be allowed to offer long-distance services.[30] The Bell Operating Companies filed applications with the FCC between 1997 and 2002 to enter long-distance markets. Among other criteria, the companies had to demonstrate that customers could easily switch to competitive carriers, including porting numbers in a timely manner. It was not an easy standard to meet. Local number portability, particularly the capability of incumbent LECs systems to support it, was far from perfect in the initial years and was sometimes listed as a reason to deny a Section 271 application or an area in need of attention going forward.[31] Local number portability received substantial attention in the initial successful Bell Atlantic Section 271 Application for New York.[32]

Early in this century, local number portability delivered an important additional benefit that was not anticipated when it was conceived: the ability to port telephone numbers away from areas that had been stricken by disasters. First in the aftermath of the September 11, 2001 attack on the World Trade Center and then again in response to the devastation wrought by Hurricane

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[29] FCC DA98-538, Public Notice, "Common Carrier Bureau Seeks Comment on Petitions for Extension of Time of the Local Number Portability Phase II Implementation Deadline," March 20, 1998, at http://transition.fcc.gov/Bureaus/Common_Carrier/Public_Notices/1998/da980538.txt.
[30] 47 U.S.C. 271(c)(2)(B)(xi).
[31] See list of Section 271 applications at http://transition.fcc.gov/Bureaus/Common_Carrier/in-region_applications/.
[32] FCC, FCC 99-404, Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York, CC Docket No. 99-295, *Memorandum Opinion and Order*, December 22, 1999, at paragraphs 367-371.

Katrina, carriers were able to use the number portability system to move telephone numbers away from their normal geographic locations that had damaged telecommunications infrastructure to areas where networks remained in operation. After the September 11th attacks, 60,000 TNs were moved from switches serving lower Manhattan to switches in Connecticut and New Jersey. Similarly, following Katrina 300,000 TNs were moved away from the Gulf coast to areas further inland where many people and businesses relocated.[33]

Local number portability has progressed much over the past decade. Depending on the current carrier and various technical factors, most but not all phone numbers can be ported to a new wireless carrier.[34] Federal rules adopted by the Commission in 2010 require porting of a number to be completed within one business day, but many factors affect the exact timing.[35]

The FCC advises consumers that the porting process from wireless-to-wireless service should take about 2.5 hours.[36] In practice, it can take less or more time depending on the carrier. Verizon Wireless says: "Wireless to wireless ports generally should take no more than three hours to one day, but could take longer. Landline to wireless ports generally should take no more than 4 days, but could take longer."[37] AT&T Wireless has the following advice for consumers: "A Wireless number transfer initiated through a physical AT&T sales location typically completes within 1 to 3 business hours if there are no issues. If equipment has been ordered, the process typically takes 3 to 5 business days to allow time for shipment. Transferring a wireline number

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[33] Lavina Rotura***, NPAC and Disaster Recovery,*** www.opastco.org/doclibrary/2397/tech_committee.pdf. *See also* Leo and Sharon Wrobel, Disaster Recovery Planning for Communications and Critical Infrastructure (2009) at 47-53 ("We are convinced that Neustar provides the North American communications industry with an in-place solution as well as the ability to not only manage virtually all the telephone area codes and numbers in real time but to also enable the dynamic routing of calls among thousands of competing communications service providers (CSPs) in the United States and Canada in times of disaster.").

[34] See FCC, "Wireless Local Number Portability" website, discussion of "Can Consumers port a wireline number to a wireless phone," at http://www.fcc.gov/encyclopedia/wireless-local-number-portability-wlnp#wireline.

[35] 47 CFR 52.35.

[36] See FCC website: http://www.fcc.gov/encyclopedia/wireless-local-number-portability-wlnp#whatis.

[37] See Verizon Wireless website at http://support.verizonwireless.com/faqs/Switch%20To%20Verizon%20Wireless/faq_local_number_portability.html.

takes a minimum of 5 business days."[38] Other companies emphasize the maximum amount of time for a number port. Sprint says that number porting is completed within a day for phones purchased at a store.[39] T-Mobile says that it takes less than two business days.[40] Google Voice says that it takes less than 24 hours to port to Google voice.[41]

The time to port a number to a different telecommunications carrier compares favorably with other changes in identity. The time to get a new drivers license varies by state and location, but it can often be a time-consuming and unpleasant experience. Time requirements for a new passport, a new credit card, and many other forms of identification can take substantially longer than the time to port a telephone number.

Not only is porting a telephone number common, as illustrated in Tables 1 and 2, but it is also subject to remarkably few consumer complaints. Table 3 presents for the period since number portability was required for wireless services the number of consumer complaints for number portability as recorded by the FCC in various reports on consumer complaints.[42] Each quarter, the FCC presents a report with the top 5 areas of consumer complaints for cable services, broadcast services, wireless services, wireline services, and recently for bundled VoIP services. For the eight years since the FCC mandated number portability for wireless services, number portability, as shown in Table 3, rarely makes the top-5 lists of consumer complaints.[43] For the 33 quarters, across all industry segments number portability is in the top-5 only 9 times. Five of those instances are for wireless number portability in the first five quarters after mandated

[38] See AT&T Wireless website at http://www.wireless.att.com/cell-phone-service/transfer-your-number/#q14.
[39] See Sprint web site at http://support.sprint.com/support/article/Transfer_or_port_your_wireless_or_wireline_phone_number_to_your_Sprint_phone/case-ib376964-20090629-140813.
[40] See T-Mobile website at http://www.t-mobile.com/switch/default.aspx.
[41] See Google voice blog at http://googlevoiceblog.blogspot.com/2011/01/port-your-existing-mobile-number-to.html#!/2011/01/port-your-existing-mobile-number-to.html.
[42] See FCC, "Quarterly Report on Informal Consumer Inquiries and Complaints," Various dates, at http://www.fcc.gov/encyclopedia/quarterly-reports-consumer-inquiries-and-complaints.
[43] In the period before November 2003, number portability also does not show up on the list of frequent consumer complaints.

wireless portability. After those five quarters, wireless number portability problems seem to have receded as a serious consumer issue.

Although the Commission does not report all number portability complaints, it is possible to compare the results of Table 1 with those of Table 3 to describe the relative frequency of number portability complaints. In 2008 and 2009, between 7 and 8.3 million numbers were ported each quarter. During the same period, the maximum number of quarterly consumer complaints for number portability could not have exceeded 1,000, and was likely substantially less.[44] If the number were approximately 750 consumer complaints on number portability, the frequency would have been approximately one complaint per 10,000 numbers ported. Of course, the cause of these complaints are potentially many ranging from the company losing a customer, to the company gaining a customer, to the third-party local number portability administrator. It is impossible from the FCC reports to determine the cause of the consumer complaint.

In contrast, in the fourth quarter of 2003, the wireless industry ported 817 thousand telephone numbers among its members and had 3,447 consumer complaints. During that period, one complaint was registered for every 237 number ports. The frequency of complaints has diminished substantially over time.

It is unlikely that many, if any, of these complaints had to do with local number portability administration, which has improved substantially from the inception of local number

[44] The last three columns of Table 3 present the number of complaints in the smallest category for bundled services, wireless services, and wireline services, respectively. If number portability is not one of the top-five complaints, the number of complaints associated with number portability must be less than the number of complaints in these last three columns (or else number portability would have been one of the top-five complaints). Thus, the number of porting complaints in most quarters would have been less 1,000, possibly substantially less.

portability. In fact, just last year, the Local Number Portability Administrator, Neustar, met 100% of 2200 performance measurements, recording a perfect score for the first time.[45]

VIII. KEEPING PHONE NUMBER ADMINISTRATION NEUTRAL IS IMPORTANT

In the mid 1990s, the federal government set about to ensure the development of a commercially viable form of a technology to port numbers on a competitively neutral basis among carriers that deeply mistrusted one another. The FCC opened a proceeding on how to create local number portability. There were skeptics who said it would not work. Throughout the proceeding, the need for a neutral number portability administrator emerged.

Both Congress and the FCC have emphasized the importance of keeping numbering administration free of both the appearance and the reality of bias or favoritism towards one technology or one operating system or one company. The choice of words varies, but the concept of neutrality of numbering administration is constant. When Congress wrote the Telecommunications Act of 1996, it used the word "impartial" in one instance: to describe numbering administration. "The Commission shall create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis."[46]

The Telecommunications Act of 1996 permitted competition—and tore away regulations that prevented it--for telecommunications services. Competition for telecommunications services depends critically on businesses and consumers being able to choose among competing carriers and competing technologies. Those choices are extremely valuable to consumers if telephone numbers can seamlessly be ported to a new carrier; those choices are far less valuable without number porting. The reason for Congress's concern over the neutrality of numbering administrators is clear: if a numbering administrator has a bias, real or perceived, towards or

[45]Bill Reidway, *NPAC Performance: Neustar Receives a Perfect Score,* http://blog.neustar.biz/neustar-insights/neustar-achieves-a-perfect-score-in-2011-npac-performance/
[46] 47 U.S.C. 251(e)(1).

away from a particular technology, operating system, or company, telecommunications competition would be imperiled.

The FCC recognized the importance of neutrality in its early orders on numbering administration. As the Commission observed in its *First Report and Order on Numbering Administration*: "Almost all parties, incumbent LECs and new entrants, support administration of the database(s) by a neutral third party."[47] The Commission mentions the word or variant of "neutral" 58 times in the *Report*, but the word "impartial" only five times.[48] It appears that the Commission viewed "neutral" as an equivalent and perhaps more precise descriptor of "impartial." The Commission explained the importance of neutrality of the administrator in great detail:

> Neutral third party administration of the databases containing carrier routing information will facilitate entry into the communications marketplace by making numbering resources available to new service providers on an efficient basis. It will also facilitate the ability of local service providers to transfer new customers by ensuring open and efficient access for purposes of updating customer records. As we stated above, the ability to transfer customers from one carrier to another, which includes access to the data necessary to perform that transfer, is important to entities that wish to compete in the local telecommunications market. Neutral third party administration of the carrier routing information also ensures the equal treatment of all carriers and avoids any appearance of impropriety or anti-competitive conduct. Such administration facilitates consumers' access to the public switched network by preventing any one carrier from interfering with interconnection to the database(s) or the processing of routing and customer information. Neutral third party administration would thus ensure consistency of the data and interoperability of number portability facilities, thereby minimizing any anti-competitive impacts.[49] [footnotes omitted]

In the *Second Report and Order*, the Commission addresses the selection of the local number portability administrator and mentions "impartiality" 14 times and neutrality 21 times.[50] The Commission likely received subsequent comments on the impartiality or neutrality of local number portability, but the Commission did not review its neutrality rules with respect to

[47] FCC, Telephone Number Portability, *First Report and Order and Further Notice of Proposed Rulemaking*, Docket 95-116, July 2, 1996, paragraph 89.
[48] Many of the references to "neutral" pertain to contributions to the cost of number porting.
[49] Ibid., paragraph 92.
[50] FCC, FCC-97-289, Number Portability, *Second Report and Order*, released August 18, 1997.

neutrality. The Commission does not discuss "neutrality" or "impartiality" of the numbering plan administrator in either its *Second* or *Third Memorandum Opinion and Order*.[51]

Neutrality is as important today as ever. Millions of Americans rely on number portability each year. They assume it works. Telecommunications providers rely on number portability. They also assume that it works and that it is competitively neutral, not favoring one carrier or one manufacturer or one operating system over another.

A failure of neutrality of the LNPA would undermine the integrity of the competitive telecommunications marketplace that the Congress and the FCC sought to establish in the 1990s. Of necessity, the LNPA is privy to competitive sensitive information that could be exploited if the LNPA was not unquestionably neutral. For example, a telecommunications affiliate of a non-neutral LNPA could use another provider's porting information for win-back campaigns and other marketing purposes. A non-neutral LNPA could also manipulate the pace of porting to benefit its affiliate. Clearly, this would be bad enough in the ordinary course of business, but could be even worse if such anticompetitive activity took place in the aftermath of a disaster such as September 11th or Katrina. Even without such behavior, a non-neutral LNPA could create the appearance of impropriety and could cause lingering doubt among competitors and consumers about the fairness of the process.

Table 4 reveals the uniqueness of the characteristics of telephone numbers that requires neutral administration of porting. While individuals today have a wide range of numbers that identity themselves, none begins to match the characteristics of phone numbers.

Table 4 presents eight types of numbers that identify individuals: telephone numbers, driver's license numbers, social security numbers, passport numbers, web addresses, e-mail

[51] FCC, FCC-98-275, Number Portability, *Second Memorandum Opinion and Order on Reconsideration*, released October 20, 1998. FCC-98-198, Number Portability, *Third Memorandum Opinion and Order on Reconsideration*, released August 13, 1998.

addresses, bank account numbers, and credit and debit card numbers. (For the purposes of Table 4, I treat web addresses and email addresses as "numbers.") Of these, only the telephone number, web address, and email address are part of an individual's public persona, widely available to the public. The other numbers are private and confidential, ones that an individual would not want widely known. All of these numbers are drawn from a large universe, with at least tens of millions of possible numbers.

Unique among the various types of numbers, only telephone numbers are recyclable and portable.[52] These are not characteristics commonly found for other numbers. When a bank account is closed, the number is neither recycled nor ported. The same is true for most identification numbering systems.

The government entirely controls the assignment and management of driver's license numbers, social security numbers, and passport numbers. These numbers are not recycled or ported. Other numbers in Table 4 are private administered and controlled.

With the possible exception of top-level domain name administrators for the internet, no other type of number used for personal identification has even a remotely neutral third party administrator.

Table 4 helps illustrate the uniqueness of number portability for telephone numbers. When number portability became important in the mid-1990s, no business had the exact business model and technology in place to provide number porting services. Today, no other market has the same exacting requirements as local number portability for telephone numbers.

Local number portability will not work well if at all without neutrality of the administrator. Telecommunications providers were and are fiercely competitive and do not trust

[52] In theory, it is possible that a web address and an email address can be recycled, and recycling would depend on the policies of a top-level domain name administrator for a web site and email administrator for an email address.

one another. Number portability is a matter of trust among consumers and providers. Without trust in the neutrality of the administrator, number portability may not work.

IX. COMMISSION RULES REQUIRE NEUTRALITY OF LOCAL NUMBER PORTABILITY OWNERSHIP, AND THE COMMISSION SHOULD ENFORCE THOSE RULES

The Commission has rules that require the impartiality and neutrality of ownership of entities that administer local number portability for telephone numbers.[53] As the Commission rules even define a local number portability administrator by its independence: "The term *local number portability administrator (LNPA)* means an independent, non-governmental entity, not aligned with any particular telecommunications industry segment, whose duties are determined by the NANC."[54] "Independent" and "not aligned with any particular telecommunications industry segment" are inherent in an LNPA; an entity that does not have these characteristics is not an LNPA.

The "telecommunications industry" can be viewed as having several parts including service providers, manufacturers of equipment, and whole and retail distribution networks.[55] An LNPA, consistent with 52.21, must be independent of businesses in every segment of the telecommunications industry.

Significantly, as part of the *Second Report and Order,* the Commission took the step of incorporating into its rules most of the report of the North American Numbering Council's (NANC) Local Portability Administrator Selection Working Group (LNPA SWG).[56] Included

[53] See 47 CFR Part 52, particularly 52.5, 521.11, 52.12, 52.13, 52.20, 52.21 52.25, 52.26, and the remainder of CFR Part 52.
[54] 47 CFR 52.21(k).
[55] For an overview of the structure of the telecommunications industry in the United States, see H. Furchtgott-Roth, *The Wireless Sector: A Key to Economic Growth in America*, report prepared for CTIA, January 2009.
[56] See discussion of the Working Group throughout the *Second Report and Order*. The portions of the April 25, 1997 LNPA SWG report are incorporated in 47 CFR 52.26. The only portions excluded are: "Section 7.10 of *Appendix D and the following portions of Appendix E:* Section 7, Issue Statement I of Appendix A, and Appendix B in the *Working Group Report* are *not* incorporated herein."

among the provisions that were incorporated were provisions dealing with neutrality of the LNPA. The LNPA SWG Report describes the selection criteria for an LNPA, and the first criterion mentioned is neutrality:

> The Telecommunications Act of 1996 and the FCC's July 2, 1996 LNP Order established mandatory criteria (Criteria, individually Criterion) for the selection of the LNPA and all related activities. Central among these Criteria are competitive neutrality, which is a requirement for the third party LNPA itself (LNP Order, ¶93)[57]

The LNPA SWG report, and thus the Commission's rules by incorporation, further describes the mechanics of selecting an LNPA.[58] The LNPA SWG Report describes specific criteria for ensuring neutrality:

A. In order to prevent a real conflict of interest, the Primary Vendor/System Administrator must be a neutral third party that has no financial or market interest in providing local exchange services within the United States.

B. To prevent such a conflict of interest, the Primary Vendor/System Administrator "NPAC" function *will not* be awarded to:

1.) any entity with a *direct material financial interest* in the *United States portion* of the North American Numbering Plan (NANP), and number assignments pursuant to the Plan, including (but not limited to) telecommunications carriers;

2.) any entity with a *direct material financial interest* in manufacturing telecommunications network equipment;

3.) any entity affiliated in other than a deminimus way in any entity described in 1.) or 2.) above, and;

4.) any entity involved in a contractual relationship or other arrangement that would impair the entity's ability to administer numbers fairly under the NANP and in accordance with the procedural delivery schedule set forth in the RFP.[59]

The SWG recognized that a conflict of interest that would arise if a telecommunications carrier became the LNPA. A telecommunications carrier would clearly have an incentive and the means to favor itself to the detriment of competitors. Even without acting in a non-neutral

[57] LNPA SWG Report, at 4.1.1.
[58] Ibid., at 4.2.
[59] Ibid., at 4.2.2.

fashion, a telecommunications carrier as the LNPA would create the appearance of impropriety and would create an aura of mistrust among competitors. Similarly, the SWG identified serious neutrality concerns were an equipment manufacturer to take on the role of the LNPA. There are at least two principle neutrality concerns about manufacturing interests: 1) the purchasing power of large carriers that may give them substantial and undue influence over an LNPA eager to make equipment sales, and 2) the financing that is sometimes provided by equipment manufacturers to enable their customers' purchase of equipment, which would give an equipment manufacturer a vested interest in the success of such customers. The LNPA SWG was concerned enough about the potential conflict of interest to prohibit both telecommunications carriers and equipment manufacturers, along with their affiliates, from becoming an LNPA.

I encourage the Commission and the industry to continue its commitment to neutrality by selecting a Local Number Portability Administrator that meets the neutrality standards described above.

Table 1

Telephone Number Porting Activity Since Wireless Pooling Started (in thousands)

	Quarter	Wireline to Wireline	Wireline to Wireless	Wireless to Wireless	Wireless to Wireline	Total
2003	Fourth	1,199	14	817	2	2,032
2004	First	2,296	168	1,936	4	4,404
	Second	2,263	287	2,175	4	4,729
	Third	2,143	281	2,417	4	4,845
	Fourth	2,327	314	2,384	4	5,029
2005	First	2,891	208	2,358	5	5,462
	Second	2,915	149	2,812	4	5,880
	Third	3,323	135	2,750	6	6,213
	Fourth	3,093	88	2,723	6	5,911
2006	First	4,011	78	2,562	9	6,659
	Second	3,318	95	2,422	6	5,840
	Third	3,012	152	2,658	5	5,828
	Fourth	2,933	114	2,628	7	5,683
2007	First	2,801	117	3,225	6	6,149
	Second	2,925	160	3,290	8	6,382
	Third	3,963	363	3,283	11	7,619
	Fourth	5,340	257	3,489	7	9,093
2008	First	3,987	63	3,266	10	7,326
	Second	3,828	62	3,169	8	7,067
	Third	3,907	134	4,006	12	8,059
	Fourth	3,696	134	3,983	13	7,827
2009	First	3,601	118	4,010	14	7,743
	Second	3,844	113	3,802	14	7,773
	Third	3,973	215	4,134	15	8,337
	Fourth	3,812	181	3,961	16	7,969
2010	First	4,048	97	3,797	13	7,954
Cumulative	Total	85,448	4,097	78,057	211	167,813

Source: FCC, Numbering Resource Utilization in the United States, released January 2011, Table 14, at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-303900A1.pdf.

Table 2

Telephone Numbers Remaining in the Porting Database at the End of Each Quarter (in thousands)

Year	Quarter	Wireline to Wireline	Wireline to Wireless	Wireless to Wireless	Wireless to Wireline	Total
2003	Fourth	25,869	16	795	2	26,682
2004	First	28,462	173	2,686	3	31,324
	Second	28,371	406	4,635	4	33,417
	Third	29,396	667	6,874	9	36,945
	Fourth	30,607	832	9,041	11	41,491
2005	First	32,399	1,001	10,860	16	44,276
	Second	34,169	1,092	12,956	19	48,236
	Third	36,013	1,201	14,804	23	52,041
	Fourth	37,608	1,246	16,101	29	54,983
2006	First	40,194	1,272	17,577	34	59,077
	Second	42,130	1,333	19,032	42	62,538
	Third	43,743	1,407	20,509	46	65,705
	Fourth	45,149	1,480	21,920	50	68,600
2007	First	46,761	1,541	23,518	50	71,870
	Second	48,396	1,659	25,399	54	75,508
	Third4	50,222	2,057	27,068	116	79,463
	Fourth	53,168	2,031	29,065	120	84,384
2008	First	55,095	2,075	30,605	127	87,902
	Second	56,114	2,067	32,024	153	90,359
	Third	57,217	2,175	34,089	156	93,637
	Fourth	58,924	2,255	35,851	171	97,202
2009	First	60,609	2,353	37,663	177	100,801
	Second	62,508	2,433	39,221	182	104,344
	Third	64,333	2,539	40,522	181	107,576
	Fourth	66,136	2,654	41,776	184	110,750
2010	First	67,517	2,701	43,425	186	113,829

Source: FCC, Numbering Resource Utilization in the United States, released January 2011, Table 15, at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-303900A1.pdf.

Table 3

Number of Informal Complaints to the FCC
Number Portability
From Lists of Top Five Complaints
Selected Quarters

year	quarter	portability VoIP and bundled complaints	portabilty wireless complaints	portability wireline complaints	minimum VoIP and bundled complaints (all categories)	minimum wireless complaints (all categories)	minimum wireline complaints (all categories)
2003	4		3447			685	470
2004	1		2904			620	510
	2		976			690	519
	3		703			703	614
	4		256			256	250
2005	1					449	433
	2					450	396
	3					580	353
	4					353	366
2006	1					316	367
	2					451	401
	3					440	284
	4					495	298
2007	1					504	395
	2					293	392
	3					403	398
	4					398	486
2008	1			396		276	396
	2					273	497
	3			402		221	402
	4					268	383
2009	1					314	821
	2					323	801
	3					262	708
	4					383	713
2010	1					390	846
	2					337	788
	3					419	923
	4					416	798
2011	1					434	897
	2					361	728
	3	120			120	339	1529
	4	119			119	504	1313

Source: Various FCC reports
at
http://www.fcc.gov/encyclopedia/quarterly-reports-consumer-inquiries-and-complaints.

Table 4

The uniqueness of the neutrality requirements for telephone number portability

	Public or Private persona	Universe size	Recycle Numbers	Port numbers	Private control over numbers	Government control over entire process	Neutral number administrator
Telephone number	Public	billion	yes	yes	yes	no	yes
Driver's license number	Private	hundred million	no	no	no	yes	no
Social Security number	Private	billion	no	no	no	yes	no
Passport number	Private	billion	no	no	no	yes	no
Web address	Public	countless	no	no	yes	no	sometimes
E-Mail address	Public	countless	potentially	no	yes	no	no
Bank account number	Private	hundred million	no	no	yes	no	no
Credit and Debit card number	Private	hundred million	no	no	yes	no	no